

Work Order ID 139730 - 1

December 03, 2015 10:31:17 AM

139730

Page 1

Item ID: DSI 9730-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Shim Installation

Start Date: 12/3/2015 Start Qty: 10.00

10

3

Cust Item ID:

Required Date: 12/17/2015 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

DSI 9730

B

100

Document Control

0.00

DAS
8
9-89

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP DSI9730-011 CHG001

3x

DAS
28
9-89

DEC 08 2015

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

3

DAS
8
9-89

DEC 03 2015

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.00

Quality Control

3x

DAS
28
9-89

DEC 08 2015

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date: _____		Step #: _____		QTY Effective: _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER: _____							
Misidentified ☐	Past Due ☐								

Work Order ID 139730

December 03, 2015 10:31:17 AM

139730

Page 2

Item ID: DSI 9730-011

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Shim Installation

Start Date: 12/3/2015 Start Qty: 10.00

10

Cust Item ID:

Required Date: 12/17/2015 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP DSI9730-011								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

*FGD X2
FGD5 X1*

3X

*DAS
28
9-89*

DEC 08 2015

MLC DEC 08 2015

*20151208
20151208
JIA*

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: _____	Step #: _____	QTY Effective: _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER: _____					

Picklist Print

December 03, 2015 10:31:23 AM

Page 1

Work Order ID: 139730

139730

Parent Item: DSI 9730-011

DSI 9730-011

Parent Item Name: Shim Installation

Start Date: 12/3/2015

Required Date: 12/17/2015

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 15.09.04 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D5305-1		Manufactured	No				Each	12.0000	2	20			
D5305-1									**	14 X			
Shim													

DAS
28
9-89

Location	Loc Qty	Loc Code
ST162	12	
137042	12	

MS21920-24		Purchased	No				Each	63.0000	2	20			
MS21920-24									**				
Clamp													

DAS
28
9-89

Location	Loc Qty	Loc Code
FG	2	
117998	2	
LG056	61	
m133031	11	
m133316	25	
m133363	25	

12
8

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-796 REV. E AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-796 REV. 3

REF CANADIAN: STC SH14-45

REF FAA STC: SR03504NY

REF EASA STC: 10052022

1.0 PURPOSE

The purpose of this Dart Service Instruction is to add an aluminum abrasion strip (shim) to the D119-796-101/-103 Fwd Crosstube under the OEM lower clamp assy (P/N 109-0570-20-107) to reduce the abrasion and increase the clamping force on the fwd crosstubes. The DSI9730-011 Kit is available for customers who prefer to use pre-fabricated shims from Dart.

2.0 INSTALLATION

Note: To perform the following installation, the fwd crosstube must be lowered from the aircraft structure sufficiently to allow a minimum gap of 0.50 inches between the mating surfaces of the 109-0570-15-101 Fitting Assy and the D5124-1 Fwd Support.

- 2.1 Remove the (qty 2) 109-0570-20-107 Clamp Assy and (qty 2) outboard MS21920 Clamps and Cushions. Retain hardware.
- 2.2 If not using the DSI9730-011 Shim Kit, fabricate two rectangular shims as per Figure 1 using 16 gauge (0.051in thk) aluminum. Break all sharp edges 0.010in to 0.025in max (0.25mm - 0.64mm). Treat with chemical film material (Alodine 1200 or 1201) per MIL-C-5541.
- 2.3 Form the shims to fit the underside of the crosstube in the location shown in Figure 2. Note that the long axis of the shim is along the circumferential direction of the crosstube.
- 2.4 Abrade mating surfaces of the shims and crosstube with Scotch Brite and remove residue. Apply a minimum 0.020"-0.040" (0.51mm - 1.02mm) thk layer of Proseal 890 B1/2 or B2 on the concave surface of the shims and install in the location shown in Figure 2.
- 2.5 Apply clamping pressure using the outboard MS21920 Clamps with Cushions as well as an additional MS21920 Clamps as shown in Figure 2. Tighten the MS21920 Clamps sufficiently to allow even pressure on the circumference of the shims (do not torque the MS21920 Clamps). Allow Proseal 890 to cure for minimum of 36 hours with clamping pressure.
- 2.6 Torque outboard MS21920-24 Clamps securing the D5124-1 Fwd Supports to the crosstube to 80-100 in-lbs (9.0 - 11.3 Nm)
- 2.7 Remove additional MS21920 Clamps and re-install the D119-796-101/-103 Fwd Crosstube with 109-0570-20-107 Clamps in accordance with applicable Maintenance Instructions.

CANADA DEPARTMENT OF TRANSPORT AIRCRAFT CERTIFICATION BRANCH DAO # 01-O-01	
APPROVED 	
BY:	D. SHEPHERD (DE # 02)
DATE:	15.09.24
CERT. NO.:	SH14-45
ISSUE NO.:	1

20151203
SH 139730

B	ADD INSPECTION REQUIREMENTS (SECTION 3)		AP	15.09.24
A	NEW ISSUE		AP	15.08.20
REV.	DESCRIPTION		BY	DATE
DESIGN	AP	DART AEROSPACE, LTD		
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA		
CHECKED	q	DRAWING NO.	REV.B	
MFG. APPR.	N/A	DSI 9730	SHEET 1 OF 3	
APPROVED		TITLE	SCALE	
DE APPR.		FWD CROSSTUBE SHIM INSTL	NTS	
DATE	15.09.24		COPYRIGHT © 2015 BY DART AEROSPACE, LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE, LTD.	

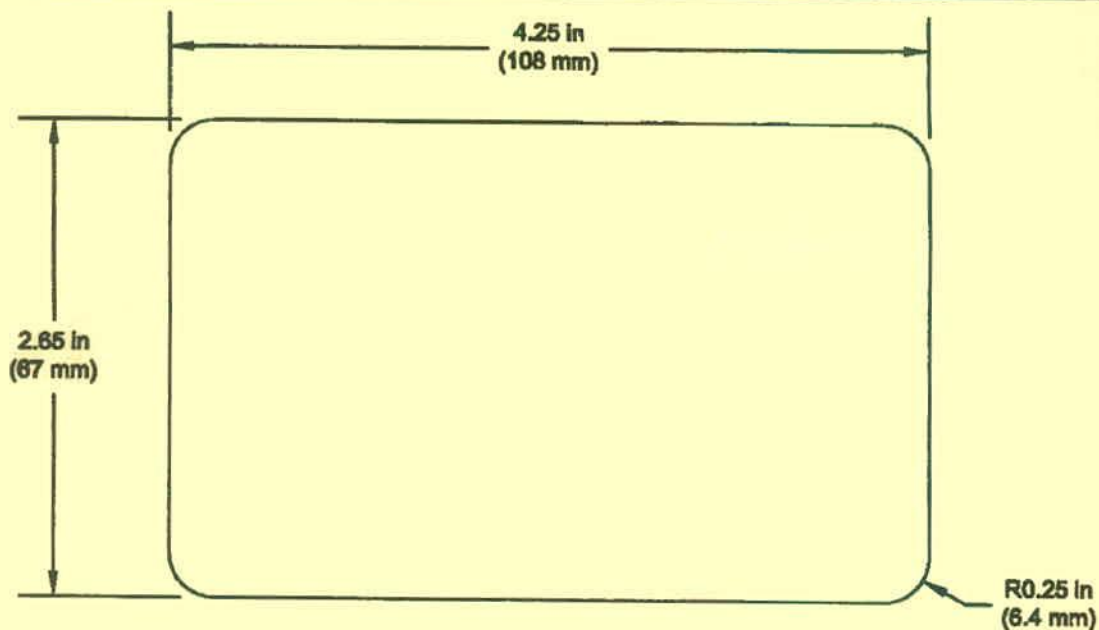


Figure 1: Fwd Crosstube Shim Dimensions (D5305-1 Shim)

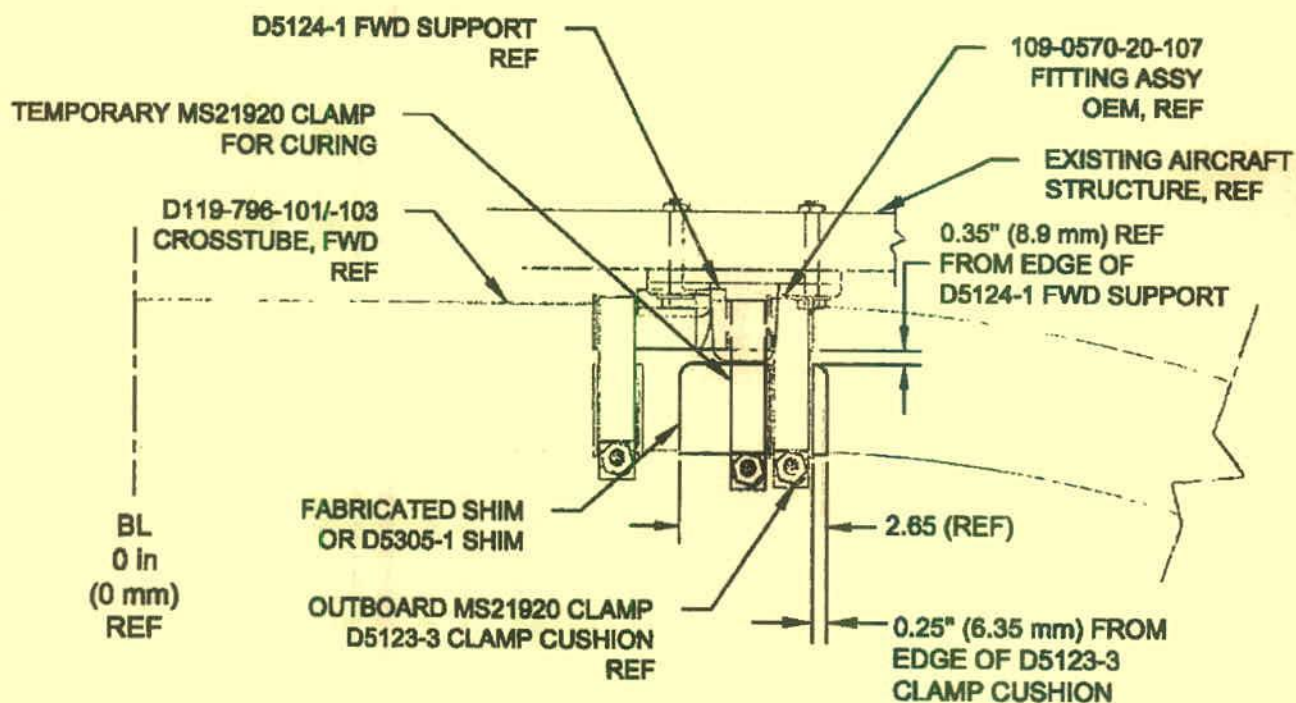


Figure 2: Fwd Crosstube Shim Installation

DESIGN	AP	DART AEROSPACE, LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	<i>q</i>	DRAWING NO.	REV.B
MFG. APPR.	N/A	DSI 9730	SHEET 2 OF 3
APPROVED	<i>By</i>	TITLE	SCALE
DE APPR.	<i>St</i>	FWD CROSSTUBE SHIM INSTL	NTS
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3.0 AMENDMENT TO ICA-D119-798 REV. 3

The following is to be performed in addition to requirements specified in ICA-D119-798 Rev. 3 Section 5.3, 400 Hour/Annual Inspection.

- 3.1 Inspect D5305-1 Shim for damage, wear and corrosion. Remove damage/corrosion to maximum depth of 0.020in (0.508mm) & touch up affected area in accordance with Section 5.3.12 (ref ICA-D119-798 Rev. 3). Replace D5305-1 if damage exceeds limitations stated above. Inspect for evidence of slipping or disbonding. If slipping or disbonding is found, re-install the D5305-1 Shim in accordance with Section 2.0 of this Service Instruction.

4.0 PARTS LIST

QTY -011	PART NUMBER	DESCRIPTION
X	DSI9730-011	SHIM KIT
2	D5305-1	SHIM
2	MS21920-24	CLAMP

5.0 WEIGHT AND BALANCE

There is negligible weight and balance change associated with this modification.

DESIGN	AP	DART AEROSPACE, LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	GP	DRAWING NO.	REV.B
MFG. APPR.	N/A	DSI 9730	SHEET 3 OF 3
APPROVED	By	TITLE	SCALE
DE APPR.	TH	FWD CROSSTUBE SHIM INSTL	NTS
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